

REMARKS

This response is identical in substance to the response to office action filed on October 22, 2009. The office has indicated that the amendments to the specification and claims were not readable. Applicants have enlarged the font used so that the Office can read the amendments to the specification and claims.

Claims 39-44, 46-49, and 55-61 were pending in this application. Claims 39, 42, 56 and 58 have been amended and claims 59 and 61 are withdrawn. Accordingly, after the amendments presented herein have been entered, claims 39-44, 46-49, and 55-61 will remain pending. Support for the amendments to the claims can be found throughout the specification and claims as originally filed. No new matter has been added.

Claim Objections

The Examiner has objected to claim 56 as depending from cancelled claim 52. Claim 56 has been amended to depend from claim 39, thereby rendering this rejection moot.

Rejection of Claims 58 and 61 Under 35 USC 112, First Paragraph

The Examiner has rejected claims 58 and 61 under 35 USC 112, first paragraph because, the specification, while being enabling for inhibiting the growth of specific bacteria listed in the specification, does not reasonably provide enablement for treating any and all bacterial infections. Applicants respectfully disagree. However, solely in the interest of expediting prosecution, and in no way acquiescing to the validity of the Examiner's rejection, Applications have amended claim 58 to include specific bacteria disclosed in the specification.

Accordingly, Applicants respectfully request that this rejection is withdrawn.

Rejection of Claims 39-40, 42-44, 46-49 and 55-57 Under 35 USC 102(b)

The Examiner has rejected claims 39-40, 42-44, 46-49 and 55-57 as being anticipated by Shinma et al. (US 4,327,088) and Kunitake (J. Am. Chem. Soc. 1981, vol. 103). Applicants respectfully traverse this rejection.

Applicant would like to point out that the compounds disclosed by Shinma et al. do not teach or suggest the compounds of the instant invention. Specifically, the definitions of the substituents R¹, R², R³ and R⁴ do not fall within the scope Formula I of the instant

invention as set forth in claim 39. Applicant would like to emphasise that the substituents (A), (B) and (C) represent particularly selected groups which are not taught or suggested by Shinma et al.

Likewise, Kunitake et al. do not teach or suggest the claimed compounds.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

Rejection of Claims 58-61 Under 35 USC 103(a)

The Examiner has rejected claims 58-61 as being unpatentable over Haraguchi et al. (*Phytochemistry*, 1998) in view of Berge et al. (*Jorunal of Pharmaceutical Science*, Vol. 66, No. 1). Applicants respectfully traverse this rejections.

The Examiner submits that the method claimed in claims 58-61 merely is a simple modification of the teaching of Haraguchi et al. Specifically, the Examiner is of the opinion that "[t]he difference between Haraguchi et al. and Applicant's claimed invention is that Haraguchi et al. does not disclose the salt version of the compounds and it does not disclose the amine form."

In fact, the Examiner admits that not only is the Applicant's claimed invention different from Haraguchi et al. because the compounds are not in the salt form, but the invention is also different from Haraguchi et al. because the compounds are not in the amine form.

Hence, the Examiner implicitly admits that when starting from Haraguchi et al., the skilled person would first have to select one of three rather specific amine substituents (cf. substituents (A), (B) or (C) (see claim 58)), but the skilled person would further have to modify that amine by forming the ammonium salt thereof. Such modifications represent fundamental changes to the molecule, with a low degree of predictability.

The Examiner is using hindsight reconstruction to make this obviousness rejection. Specifically, there is no way to have predicted that the claimed molecules would be antimicrobial based on the teachings of the cited art. It is only in hindsight, based on the disclosure of the instant application, that the Examiner can make the foregoing rejection.

Accordingly, Applicants believe that the claims are not obvious in view of the cited references, and respectfully request that the Examiner reconsider and withdraw the foregoing rejection.

Rejection of Claims 39-40, 42-44, 46-48, 58 and 61 Under 35 USC 103(a)

The Examiner has rejected claims 39-40, 42-44, 46-48, 58 and 61 as being unpatentable over Packman et al. (3,407,203). Applicants respectfully traverse this rejections.

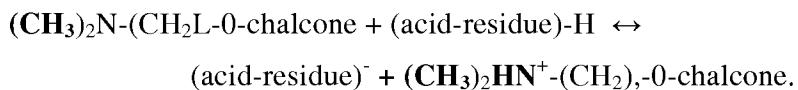
Although Packman et al. discloses certain compounds which have antihypertensive properties, it can not be assumed or predicted that these compounds have antibacterial effect.

The Examiner is of the opinion that the invention of claims 39-40, 42-44, and 46-48 is obvious in view of Packman et al. The Examiner argues that ".. Packman et al. [...] does not disclose Q anion.", and "[h]owever, Packman states that if the acid salts are desired they are produced by reacting the resulting chalcone with the appropriate acid under anhydrous conditions."

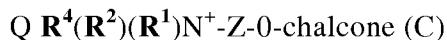
However, the reaction of the chalcone of Packman et al. does not provide a compound of the claimed invention, because the chalcone of Packman et al. is an amine:



which upon reaction with an acid will yield the corresponding acid salt according to the **reversible** reaction



The compounds of the claimed invention comprises a quaternary ammonium group, e.g., of the formula:



where none of the substituents R^1 , R^2 and R^4 are hydrogen. Moreover, the quaternary ammonium group is in a permanent charged form, and is not able to convert to the corresponding amine in a reversible manner.

Therefore, the compounds of the claimed invention are not the result of a reaction of the compounds of Packman et al. with an acid, as set forth by the Examiner.

Accordingly, Applicants believe that the claims are not obvious in view of the cited references, and respectfully request that the Examiner reconsider and withdraw the foregoing rejection.

CONCLUSION

The Examiner is urged to contact the undersigned attorney if a telephone conference would help to expedite prosecution of this application.

Dated: March 18, 2010

Respectfully submitted,

By____/Jonathan M. Sparks, Ph.D. _____
Jonathan M. Sparks, Ph.D.
Registration No.: 53,624

EDWARDS ANGELL PALMER & DODGE
LLP
P.O. Box 55874
Boston, Massachusetts 02205
(617) 517-5543
Attorneys/Agents For Applicant